Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

Claims 1-61 (canceled)

Claim 62 (previously presented) A method for producing a non-human transgenic mammal, the method comprising:

(a) modifying the nuclear genome of a somatic cell with a normal karyotype at an endogenous locus by a genetic targeting event;

(b) transferring the modified nuclear genome of the somatic cell to a oocyte, two cell embryo or zygote which is capable of producing a viable nuclear transfer unit;

(c) activating the nuclear transfer unit thereby producing an embryo;

(d) transferring the embryo to a surrogate mother which is a suitable host; and

(e) allowing the embryo to develop to term, thereby producing a non-human transgenic mammal.

Claim 63 (currently amended) The method of claim 62, wherein the transgenic mammal is a transgenic sheep, cattle, ~~goat,~~ or pig~~, horse, camel, rabbit or rodent~~.

Claim 64 (canceled)

Claim 65 The method of claim 62, wherein the genetic targeting event results in removal of a gene, modification of a gene, upregulation of a gene, gene replacement or transgene placement.

Claim 66 The method of claim 62, wherein the genetic targeting event results in inactivation of a gene.

Claim 67-69 (cancelled)

Claim 70 (currently amended) The method of claim 62, wherein the modification comprises placing a gene ~~promoter~~ adjacent to an endogenous promoter ~~gene~~ in the nuclear genome.

Claim 71 (previously presented) The method of claim 70, wherein the promoter is a collagen gene promoter.

Claim 72 (previously presented) The method of claim 70, wherein the promoter is a milk protein gene promoter.

Claim 73 (previously presented) The method of claim 70, wherein the promoter directs expression of at least one gene in fibroblast cells.

Claim 74 (canceled)

Claim 75 (previously presented) The method of claim 62, wherein the modification comprises placing a marker gene at the endogenous locus in the nuclear genome.

Claim 76 (previously presented) The method of claim 75, wherein the marker gene is a gene that confers resistance to a drug.

Claim 77 (previously presented) The method of claim 76, wherein the gene that confers resistance to a drug is selected from the group consisting of neomycin, G418, hygromycin, zeocin, blasticidin and histidinol.

Claim 78 (previously presented) The method of claim 75, wherein the marker gene is selected from the group consisting of HPRT, gpt, a visible marker gene and a gene that can be detected with a single chain antibody/hapten system.

Claim 79 (previously presented) The method of claim 78, wherein the visible marker gene is GFP.

Claim 80-81 (canceled)

Claim 82 (previously presented) The method of claim 62, wherein the genetic targeting event is mediated by lipofection.

Claims 83-86 (canceled)

Claim 87 (currently amended) The method of claim 62, wherein the somatic cell is an epithelial cell, a fibroblast cell, or an endothelial cell ~~or a muscle cell~~.

Claim 88 (previously presented) The method of claim 62, wherein the somatic cell is a G_0 cell.

Claim 89 (previously presented) The method of claim 88, wherein the G_0 cell is obtained by serum starvation of a somatic cell.

Claim 90 (previously presented) A method for producing transgenic offspring from a transgenic mammal, the method comprising:

(a) modifying the nuclear genome of a somatic cell with a normal karyotype at an endogenous locus by a genetic targeting event;

(b) transferring the modified nuclear genome of the somatic cell to an oocyte, two cell embryo or zygote which is capable of producing a viable nuclear transfer unit;

(c) activating the nuclear transfer unit thereby producing an embryo;

(d) transferring the embryo to a surrogate mother which is a suitable host;

(e) allowing the embryo to develop to term, thereby producing a non-human transgenic mammal; and

(f) breeding the transgenic mammal to produce transgenic offspring from the transgenic mammal.

Claims 91- 98 (canceled)

Claim 99 (previously presented) The method of claim 90, wherein the genetic targeting event results in removal of a gene, modification of a gene, upregulation of a gene, gene replacement or transgene placement.

Claim 100 (previously presented) The method of claim 90, wherein the genetic targeting event results in inactivation of a gene.

Claim 101 (canceled)

Claim 102 (currently amended) The method of claim 90, wherein the modification comprises placing a gene ~~promoter~~ adjacent to an endogenous promoter ~~gene~~ in the nuclear genome.

Claim 103 (previously presented) The method of claim 102, wherein the promoter is a collagen gene promoter.

Claim 104 (previously presented) The method of claim 102, wherein the promoter is a milk protein gene promoter.

Claim 105 (previously presented) The method of claim 102, wherein the promoter directs expression of at least one gene in fibroblast cells.

Claim 106 (previously presented) The method of claim 90, wherein the modification comprises placing a marker gene at the endogenous locus in the nuclear genome.

Claim 107 (previously presented) The method of claim 106, wherein the marker gene is a gene that confers resistance to a drug.

Claim 108 (previously presented) The method of claim 107, wherein the gene that confers resistance to a drug is selected from the group consisting of neomycin, G418, hygromycin, zeocin, blasticidin and histidinol.

Claim 109 (previously presented) The method of claim 106, wherein the marker gene is selected from the group consisting of HPRT, gpt, a visible marker gene and a gene that can be detected with a single chain antibody/hapten system.

Claim 110 (previously presented) The method of claim 109, wherein the visible marker gene is GFP.

Claims 111-112 (canceled)

Claim 113 (previously presented) The method of claim 90, wherein the genetic targeting event is mediated by lipofection.

Claims 114-117 (canceled)

Claim 118 (currently amended) The method of claim 90, wherein the somatic cell is an epithelial cell, a fibroblast cell, or an endothelial cell ~~or a muscle cell~~.

Claim 119 (previously presented) The method of claim 90, wherein the somatic cell is a G_0 cell.

Claim 120 (previously presented) The method of claim 119, wherein the G_0 cell is obtained by serum starvation of a somatic cell.

Claim 121 (previously presented) The method of claim 62 or 90, wherein the genetic targeting event is mediated by electroporation.

Claim 122 (previously presented) The method of claim 62 or 90, wherein the genetic targeting event is mediated by transfection.

Claim 123 (previously presented) The method of claim 66, wherein the gene that is inactivated is α-1,3 galactosyltransferase.

Claim 124 (previously presented) The method of claim 99, wherein the gene that is inactivated is α-1,3 galactosyltransferase.

Claim 125 (previously presented) The method of claim 62 or 90, wherein the endogenous locus is an immunoglobulin gene.

Claims 126-130 (canceled)

Claim 131 (previously presented) A method for producing a non-human transgenic mammal, the method comprising:

(a) modifying the nuclear genome of a somatic cell with a normal karyotype at an endogenous locus by a genetic targeting event;

(b) accomplishing successful nuclear transfer to produce the non-human transgenic mammal.

Claim 132 (canceled)

Claim 133 (previously presented) A method for producing transgenic offspring from a transgenic mammal, the method comprising:

(a) modifying the nuclear genome of a somatic cell with a normal karyotype at an endogenous locus by a genetic targeting event;

(b) transferring the modified nuclear genome of the somatic cell to an oocyte, two cell embryo or zygote which is capable of producing a viable nuclear transfer unit;

(c) activating the nuclear transfer unit thereby producing an embryo;

(d) transferring the embryo to a surrogate mother which is a suitable host;

(e) allowing the embryo to mature.